

## **MODULATOR**

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### Abstract of JP9083587

**PROBLEM TO BE SOLVED:** To compensate offset by using an analog quadrature modulator and quadrature detector at the time of the envelope detection-type distortion compensating of a digital communication equipment. **SOLUTION:** A transmission base band signal from an arithmetic/control part 13 is converted into an analog signal and it is added to the quadrature modulator 18. A transmission modulation wave generated by quadrature modulating a reference carrier is branched and is added to the quadrature detector 35. A reception base band signal obtained by converting a demodulation signal obtained by quadrature detection by the reference carrier into a digital signal is fed back to the arithmetic/control part 13, and the transmission base band signal is predistortion-processed in accordance with the transmission base band signal and a compared result. At the time of removing the waveform distortion of the transmission modulation wave, a lacking carrier based on the offsetting of the quadrature modulator 18 is detected and the reference points (offsetting) of amplifiers 16 and 17 for the input of the quadrature modulator is changed in accordance with a signal which is made into direct current. Then, an input signal value for the quadrature modulator 18 is shifted. Then, the offsetting of the quadrature modulator 18 is controlled to become a minimum.



